

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

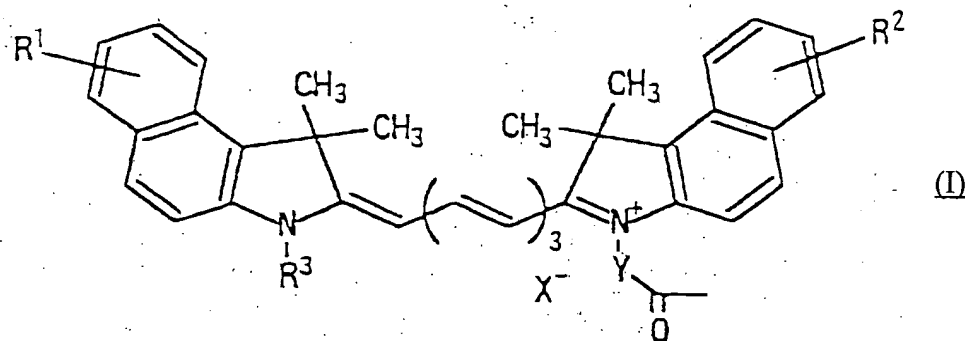
Listing of Claims:

Claim 1 (Currently Amended): A composition for immunohistochemical staining which contains a diagnostic marker comprising:

an antibody bound with a fluorescent functional group comprising an indocyanine green derivative which is capable of being excited to cause fluorescence, and

at least one substance which enhances fluorescence intensity of the fluorescent functional group, said at least one substance being selected from glycerophospholipid or fatty acid, and

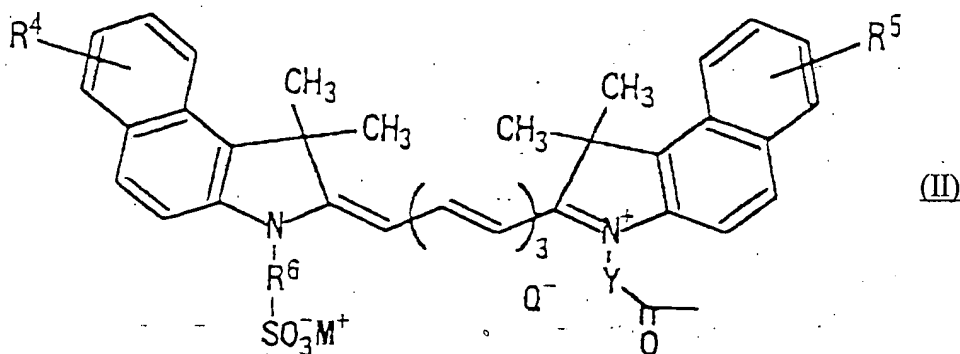
said indocyanine green derivative comprising a compound of the following formula (I) or (II):



wherein R¹ and R² independently represent hydrogen atom, an alkyl group, an aryl group, an alkoxyl group, or a sulfonic acid group; R³ represents an alkyl group, a sulfonic acid-alkyl group, or an amino-substituted alkyl group; X⁻ represents an anion species, if required; Y represents a

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C₁-C₁₀ alkylene group or a C₁-C₁₀ alkylene group containing at least one atom selected from the group consisting of oxygen, nitrogen and sulfur:



wherein R⁴ and R⁵ independently represent hydrogen atom, an alkyl group, an alkoxy group, or a sulfonate group; R⁶ represents an alkylene group; M⁺ represents an alkali metal ion; Q⁻ represents a halogen ion, perchlorate ion, or thiocyanate ion; Y represents a C₁-C₁₀ alkylene group or a C₁-C₁₀ alkylene group containing at least one atom selected from the group consisting of oxygen, nitrogen and sulfur; and

the antibody binds to the compound through the carbonyl group of -Y-CO- group.

Claim 2 (Previously Presented): The composition according to claim 1, wherein the at least one substance comprises glycerophospholipid and the glycerophospholipid is acylglycerol phosphate.

Claim 3 (Original): The composition according to claim 2, wherein the acylglycerol phosphate is 1,2-diacyl-sn-glycerol 3-phosphate containing two C₁₀₋₂₀ fatty acid residues.

Claim 4 (Original): The composition according to claim 3, wherein the 1,2-diacyl-sn-glycerol 3-phosphate is dimyristoylphosphatidic acid or distearoylphosphatidic acid.

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Claim 5 (Previously Presented): The composition according to claim 1, wherein the at least one substance comprises glycerophospholipid and the glycerophospholipid is acylglycerol phosphocholine.

Claim 6 (Original): The composition according to claim 5, wherein the acylglycerol phosphocholine is 1,2-diacyl-sn-glycerol 3-phosphocholine containing two C₁₀₋₂₀ fatty acid residues.

Claim 7 (Original): The composition according to claim 5, wherein the 1,2-diacyl-sn-glycerol 3-phosphocholine is distearoylphosphatidylcholine.

Claims 8-10 (Canceled)

Claim 11 (Original): The composition according to claim 1, wherein the indocyanine green derivative is derived from indocyanine green-N-hydroxysulfosuccinimide ester.

Claim 12 (Original): The composition according to claim 1, wherein the antibody is an anti-cancer antigen antibody.

Claim 13 (Canceled)

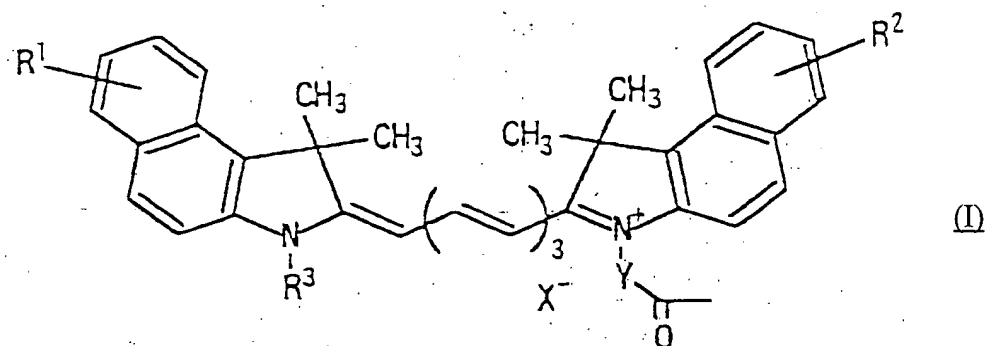
Claim 14 (Currently Amended): A method for immunohistochemical staining of a tumor cell comprising:

contacting the tumor cell with a composition which contains a diagnostic marker comprising: an antibody bound with a fluorescent functional group comprising an indocyanine green derivative which is capable of being excited to cause fluorescence, and at least one substance which enhances fluorescence intensity of the fluorescent functional group, said at least one substance being selected from glycerophospholipid or fatty acid, and

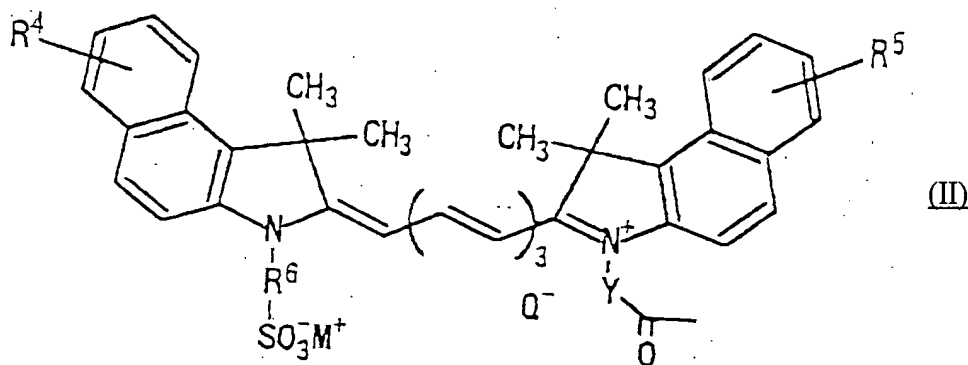
allowing the composition to bind to the tumor cell, thereby staining the cell with the diagnostic marker, and

said indocyanine green derivative comprising a compound of the following formula (I) or

(II):



wherein R^1 and R^2 independently represent hydrogen atom, an alkyl group, an aryl group, an alkoxyl group, or a sulfonic acid group; R^3 represents an alkyl group, a sulfonic acid-alkyl group, or an amino-substituted alkyl group; X^- represents an anion species, if required; Y represents a C_1 - C_{10} alkylene group or a C_1 - C_{10} alkylene group containing at least one atom selected from the group consisting of oxygen, nitrogen and sulfur;



wherein R^4 and R^5 independently represent hydrogen atom, an alkyl group, an alkoxyl group, or a sulfonate group; R^6 represents an alkylene group; M^+ represents an alkali metal ion; Q^-

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represents a halogen ion, perchlorate ion, or thiocyanate ion; Y represents a C₁-C₁₀ alkylene group or a C₁-C₁₀ alkylene group containing at least one atom selected from the group consisting of oxygen, nitrogen and sulfur; and

the antibody binds to the compound through the carbonyl group of -Y-CO- group.

Claim 15 (Currently Amended): A method for immunohistochemical diagnosis of malignant neoplasia of epithelial cells comprising:

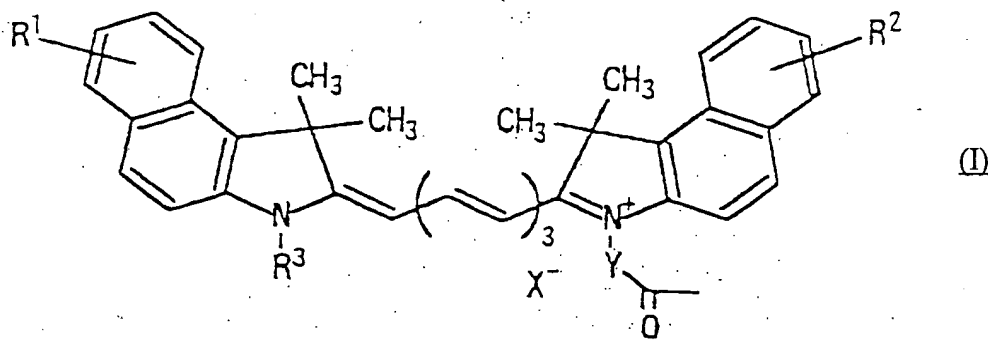
contacting the malignant neoplasia of epithelial cells with a composition which contains a diagnostic marker comprising: an antibody bound with a fluorescent functional group comprising an indocyanine green derivative which is capable of being excited to cause fluorescence, and at least one substance which enhances fluorescence intensity of the fluorescent functional group, said at least one substance being selected from glycerophospholipid or fatty acid,

allowing the composition to bind to the malignant neoplasia, thereby staining the neoplasia with the diagnostic marker, and

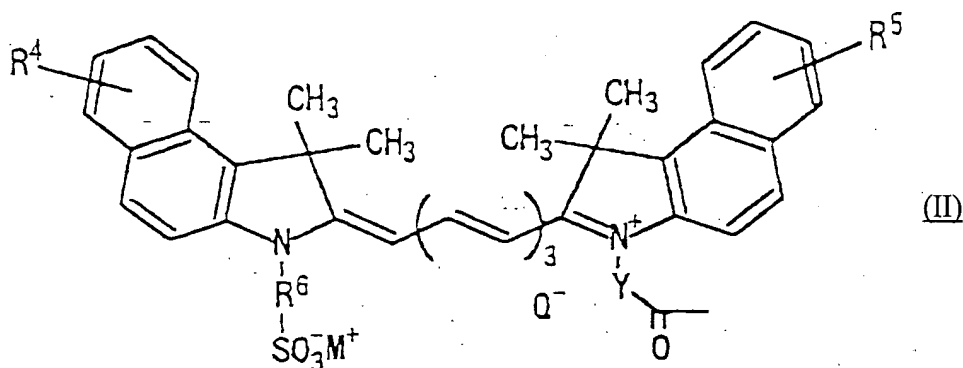
detecting the malignant neoplasia, and

said indocyanine green derivative comprising a compound of the following formula (I) or

(II):



wherein R^1 and R^2 independently represent hydrogen atom, an alkyl group, an aryl group, an alkoxy group, or a sulfonic acid group; R^3 represents an alkyl group, a sulfonic acid-alkyl group, or an amino-substituted alkyl group; X^- represents an anion species, if required; Y represents a C_1-C_{10} alkylene group or a C_1-C_{10} alkylene group containing at least one atom selected from the group consisting of oxygen, nitrogen and sulfur;



wherein R^4 and R^5 independently represent hydrogen atom, an alkyl group, an alkoxy group, or a sulfonate group; R^6 represents an alkylene group; M^+ represents an alkali metal ion; Q^- represents a halogen ion, perchlorate ion, or thiocyanate ion; Y represents a C_1-C_{10} alkylene group or a C_1-C_{10} alkylene group containing at least one atom selected from the group consisting of oxygen, nitrogen and sulfur; and

the antibody binds to the compound through the carbonyl group of $-Y-CO-$ group.

Claim 16 (Previously Presented): The method of claim 14, wherein the at least one substance comprises glycerophospholipid and the glycerophospholipid is acylglycerol phosphate.

Claim 17 (Original): The method of claim 16, wherein the acylglycerol phosphate is 1,2-diacyl-sn-glycerol 3-phosphate containing two C_{10-20} fatty acid residues.

Claim 18 (Original): The method of claim 17, wherein the 1,2,-diacyl-sn-glycerol 3-phosphate is dimyristoylphosphatidic acid or distearoylphosphatidic acid.

Claim 19 (Previously Presented): The method of claim 14, wherein the at least one substance comprises glycerophospholipid and the glycerophospholipid is acylglycerol phosphocholine.

Claim 20 (Original): The method of claim 19, wherein the acylglycerol phosphocholine is 1,2,-diacyl-sn-glycerol 3-phosphocholine containing two C₁₀₋₂₀ fatty acid residues.

Claim 21 (Original): The method of claim 20, wherein the 1,2,-diacyl-sn-glycerol 3-phosphocholine is distearoylphosphatidylcholine.

Claim 22 (Canceled)

Claim 23 (Previously Presented): The method of claim 25, wherein the indocyanine green derivative is indocyanine green-N-hydroxysulfosuccinimide and the saccharide derivative is octyl glucoside.

Claim 24 (Original): The method of claim 15 wherein the neoplasia of epithelial tissues is esophagus cancer, stomach cancer or large bowel cancer.

Claim 25 (Currently Amended): A method for immunohistochemical staining of a tumor cell comprising:

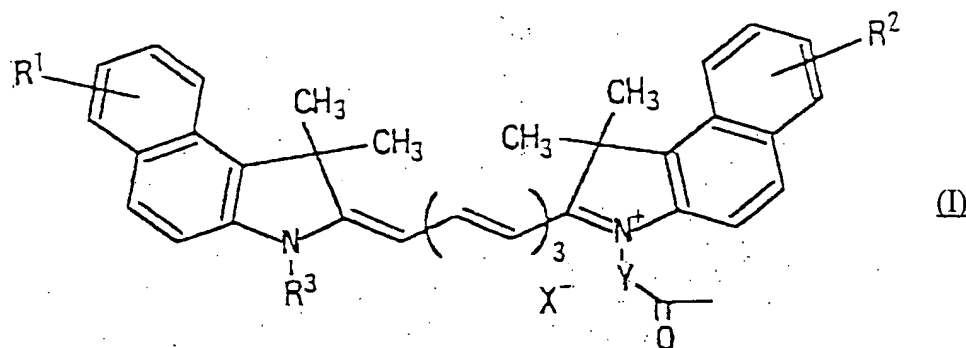
contacting the tumor cell with a composition which contains a diagnostic marker comprising: an antibody bound with a fluorescent functional group comprising an indocyanine green derivative which is capable of being excited to cause fluorescence, and at least one substance which enhances fluorescence intensity of the fluorescent functional group, said at least one

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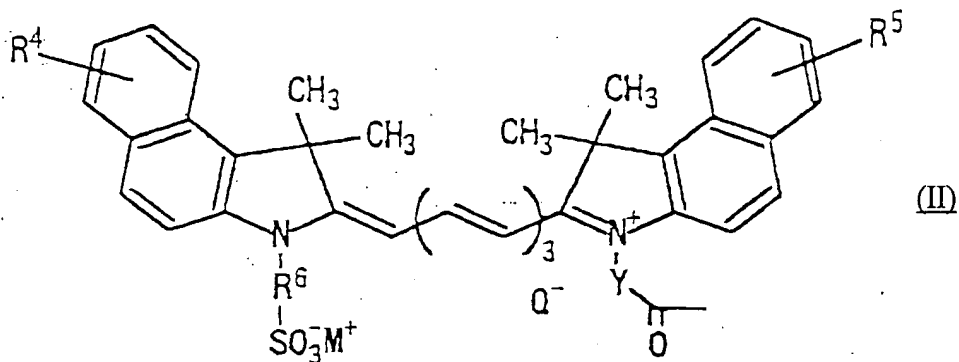
substance being selected from glycerophospholipid, fatty acid, or surfactant wherein the surfactant is a saccharide derivative having fluorescence intensity enhancing effect, and the saccharide derivative is selected from octyl glucoside, heptyl glucoside, octyl thioglucoside, or heptyl thioglucoside, and

allowing the composition to bind to the tumor cell, thereby staining the cell with the diagnostic marker, and

said indocyanine green derivative comprising a compound of the following formula (I) or (II):



wherein R^1 and R^2 independently represent hydrogen atom, an alkyl group, an aryl group, an alkoxy group, or a sulfonic acid group; R^3 represents an alkyl group, a sulfonic acid-alkyl group, or an amino-substituted alkyl group; X^- represents an anion species, if required; Y represents a C_1-C_{10} alkylene group or a C_1-C_{10} alkylene group containing at least one atom selected from the group consisting of oxygen, nitrogen and sulfur;



wherein R^4 and R^5 independently represent hydrogen atom, an alkyl group, an alkoxy group, or a sulfonate group; R^6 represents an alkylene group; M^+ represents an alkali metal ion; Q^- represents a halogen ion, perchlorate ion, or thiocyanate ion; Y represents a C_1 – C_{10} alkylene group or a C_1 – C_{10} alkylene group containing at least one atom selected from the group consisting of oxygen, nitrogen and sulfur; and

the antibody binds to the compound through the carbonyl group of $-Y-CO-$ group.

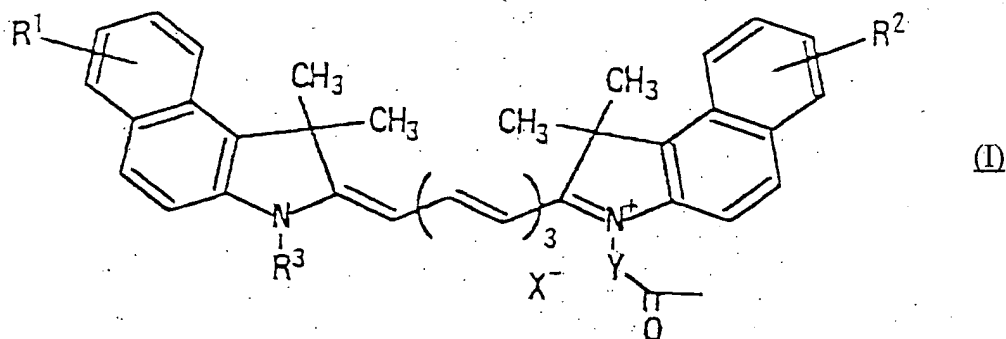
Claim 26 (Previously Presented): A composition for immunohistochemical staining which contains a diagnostic marker comprising:

an antibody bound with a fluorescent functional group comprising an indocyanine green derivative which is capable of being excited to cause fluorescence, and

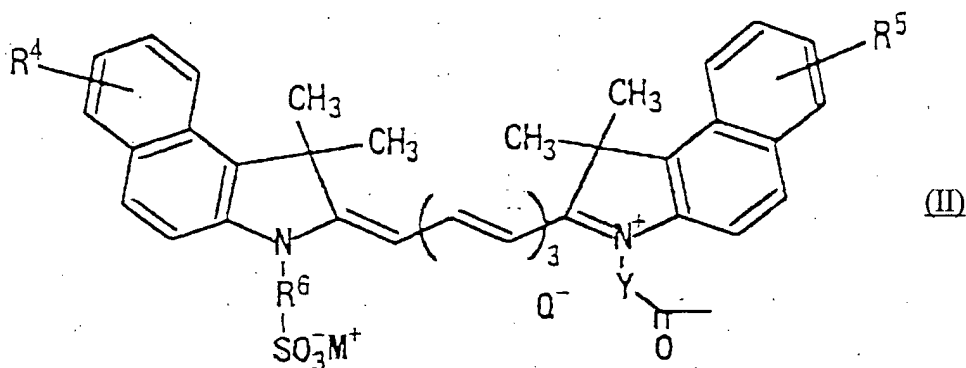
octyl glucoside, heptyl glucoside, octyl thioglucoside, or heptyl thioglucoside, and

said indocyanine green derivative comprising a compound of the following formula (I) or

(II):



wherein R^1 and R^2 independently represent hydrogen atom, an alkyl group, an aryl group, an alkoxyl group, or a sulfonic acid group; R^3 represents an alkyl group, a sulfonic acid-alkyl group, or an amino-substituted alkyl group; X^- represents an anion species, if required; Y represents a C_1 - C_{10} alkylene group or a C_1 - C_{10} alkylene group containing at least one atom selected from the group consisting of oxygen, nitrogen and sulfur;



wherein R^4 and R^5 independently represent hydrogen atom, an alkyl group, an alkoxyl group, or a sulfonate group; R^6 represents an alkylene group; M^+ represents an alkali metal ion; Q^- represents a halogen ion, perchlorate ion, or thiocyanate ion; Y represents a C_1 - C_{10} alkylene group or a C_1 - C_{10} alkylene group containing at least one atom selected from the group consisting of oxygen, nitrogen and sulfur; and

the antibody binds to the compound through the carbonyl group of $-Y-CO-$ group.

Claim 27 (Currently Amended): The composition of claim ~~25~~ 26, further comprising at least one of glycerophospholipid or fatty acid.

Claim 28 (Previously Presented): The composition of claim 27, wherein the composition comprises octyl glucoside and distearoylphosphatidic acid.

Claim 29 (Previously Presented): The composition of claim 27, wherein the composition comprises octyl glucoside and dimyristoylphosphatidic acid.

Claim 30 (Currently Amended): The method of claim ~~26~~ 25, wherein the composition further comprises at least one of glycerophospholipid or fatty acid.

Claim 31 (Previously Presented): The method of claim 30, wherein the composition comprises octyl glucoside and distearoylphosphatidic acid.

Claim 32 (Previously Presented): The method of claim 30, wherein the composition comprises octyl glucoside and dimyristoylphosphatidic acid.

Claim 33 (Currently Amended): A method for immunohistochemical diagnosis of malignant neoplasia of epithelial cells comprising:

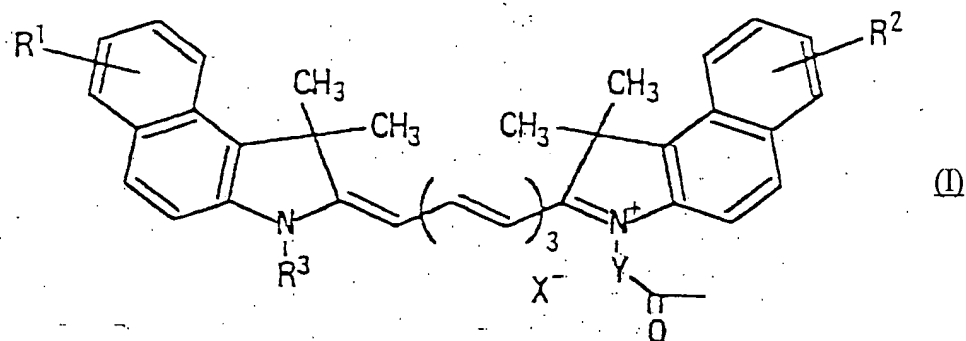
contacting the malignant neoplasia of epithelial cells with a composition which contains a diagnostic marker comprising: an antibody bound with a fluorescent functional group comprising an indocyanine green derivative which is capable of being excited to cause fluorescence, and octyl glucoside, heptyl glucoside, octyl thioglucoside, or heptyl thioglucoside,

allowing the composition to bind to the malignant neoplasia, thereby staining the neoplasia with the diagnostic marker, and

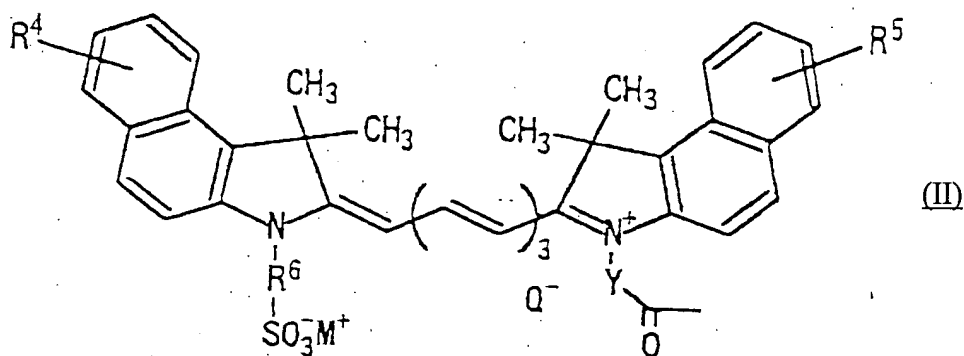
detecting the malignant neoplasia, and

said indocyanine green derivative comprising a compound of the following formula (I) or

(II):



wherein R^1 and R^2 independently represent hydrogen atom, an alkyl group, an aryl group, an alkoxyl group, or a sulfonic acid group; R^3 represents an alkyl group, a sulfonic acid-alkyl group, or an amino-substituted alkyl group; X^- represents an anion species, if required; Y represents a C_1 - C_{10} alkylene group or a C_1 - C_{10} alkylene group containing at least one atom selected from the group consisting of oxygen, nitrogen and sulfur;



wherein R^4 and R^5 independently represent hydrogen atom, an alkyl group, an alkoxyl group, or a sulfonate group; R^6 represents an alkylene group; M^+ represents an alkali metal ion; Q^- represents a halogen ion, perchlorate ion, or thiocyanate ion; Y represents a C_1 - C_{10} alkylene group or a C_1 - C_{10} alkylene group containing at least one atom selected from the group consisting of

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oxygen, nitrogen and sulfur; and

the antibody binds to the compound through the carbonyl group of -Y-CO- group.

Claim 34 (Previously Presented): The method of claim 33, wherein the composition further comprises at least one of glycerophospholipid or fatty acid.

Claim 35 (Previously Presented): The method of claim 34, wherein the composition comprises octyl glucoside and distearoylphosphatidic acid.

Claim 36 (Previously Presented): The method of claim 34, wherein the composition comprises octyl glucoside and dimyristoylphosphatidic acid.